Filtration Division

Products and market overview

Powering Business Worldwide

We make delivering your best work.*

ELECTRICAL

- Power distribution and circuit protection
- Power quality, backup power and energy storage
- Life safety and security
- Structural solutions
- Control and automation
- Harsh and hazardous environments solutions

INDUSTRIAL

- Aerospace
- Filtration
- Vehicle
- eMobility

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2022 Financials (USD)

Electrical Sector

- Electrical Americas: $8.5 Billion
- Electrical Global: $5.8 Billion

Industrial Sector

- Aerospace: $3.0 Billion
  - Filtration Division included
- Vehicle: $2.8 Billion
- eMobility: $538 Million

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A leader in liquid filtration

- Eaton helps companies improve product quality, increase manufacturing efficiency, protect employees and equipment, and help achieve sustainability goals.
- Eaton employees around the world make a difference for their customers by creating an exceptional customer experience, solving problems with application expertise and developing innovative filtration solutions.

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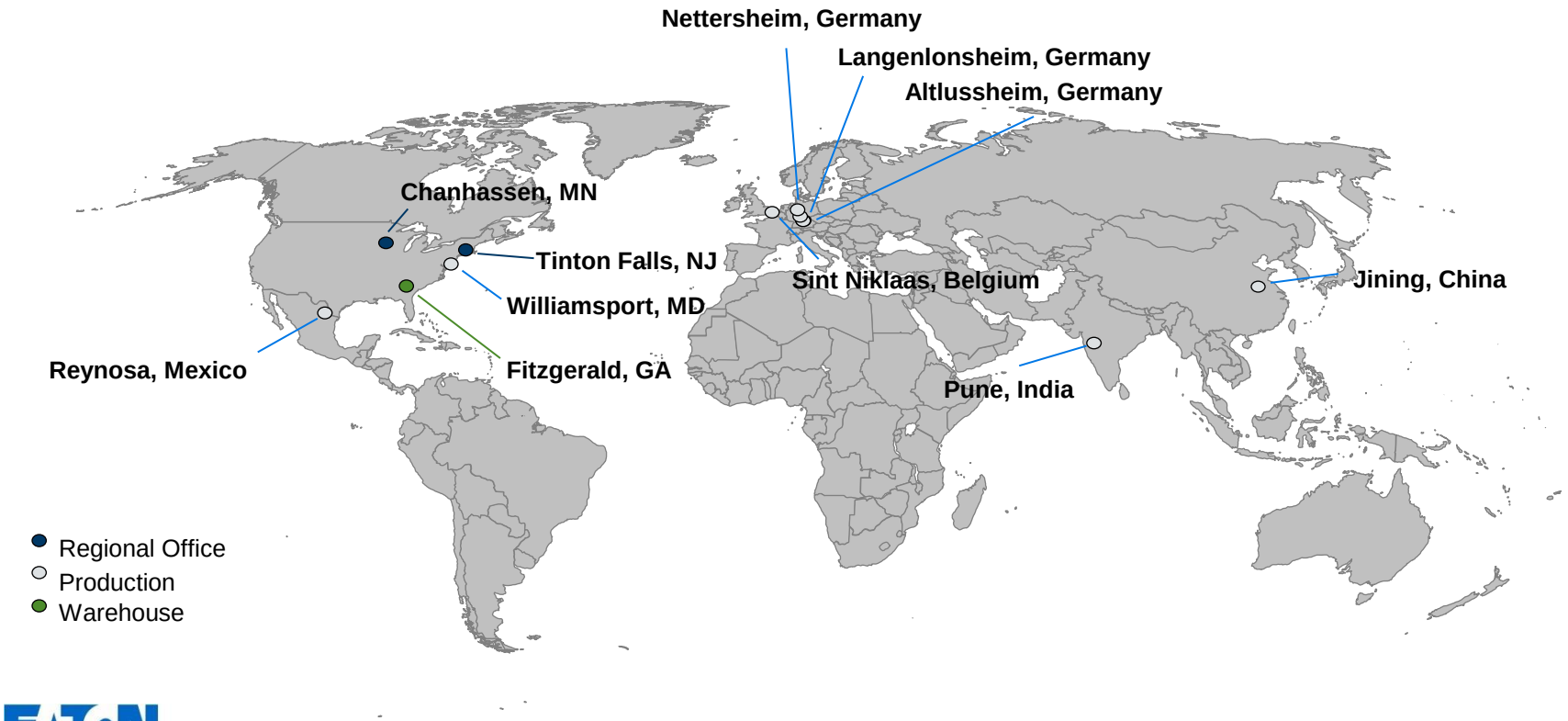
Filtration sites worldwide



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Filtration sites worldwide

- **Manufacturing plants:**
  - Europe:
    - Nettersheim (bag filter housings)
    - Langenlonsheim (depth filter systems)
    - Altlussheim (hydraulic and lubrication filter systems)
    - Sint-Niklaas (filter bags)
  - Americas:
    - Reynosa (engineer to order filter systems, filter bags, and hydraulic filters)
  - Asia:
    - Jining (filter bags, bag filter housings, strainers, hydraulic filters & elements)

- **Warehouse, distribution center or assembly:**
  - Americas:
    - Fitzgerald and Williamsport
  - India:
    - Pune


Altlussheim, Germany


Langenlonsheim, Germany


Nettersheim, Germany


Sint-Niklaas, Belgium


Fitzgerald, United States


Williamsport, United States


Reynosa, Mexico


Jining, China


Pune, India

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Eaton‘s growth through acquisition

LOEFLER FILTRATION (1998)

- Acquired by Hayward in 1998
- Strength in vessels manufacturing

GAF Filter (1999)

- Acquired by Hayward in 1999
- Developed the concept of bag filtration 35 years ago

Hayward Filtration (2005)

- Strong presence in the filtration process water and chemical markets
- Market leading position in bag filtration and straining products

Ronningen-Petter (2006)

- Application focused engineering in a range of industrial markets
- Range of unique solid-liquid separation and self-cleaning products

Eaton‘s growth through acquisition

INTERNORMEN Technology GmbH (May 2011)

- Proven leader in hydraulic and lubrication filtration technologies
- More than 4,000 different hydraulic & lubrication oil and process filters, as well as condition monitoring equipment

E. Begerow GmbH & Co. (August 2011)

- Leading system provider for advanced liquid filtration solutions
- Develops and produces technologically innovative depth filter media and filtration systems for food and beverage, chemical, pharmaceutical and industrial applications

Focus market segments

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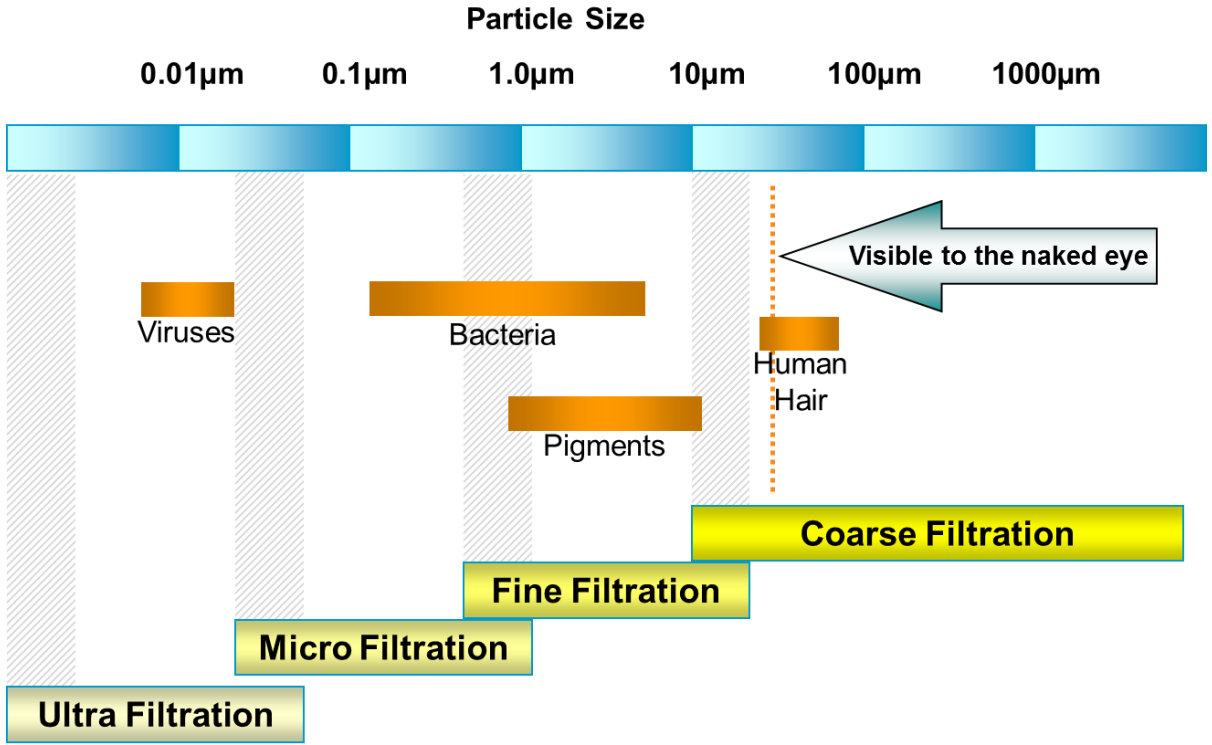
The spectrum of filtration



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Industrial process products

Bag and cartridge filter housings

Filter bags and elements

Filter cartridges

Tubular backwashing filters

Manual strainers

Automatic self-cleaning filters

Gas liquid separators

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Industrial process products

Bag and cartridge filter housings

Eaton is the leading manufacturer of bag and cartridge filter housings. Creative innovations have been the logic for a highly diversified range of vessels to meet the most demanding as well as standard applications. From single- to multi-media housings, from stainless steel to engineered plastic vessels.

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Industrial process products

Filter bags and elements

From economical sewn filter bags for standard applications to welded, multi-layered bags for demanding applications.

Eaton's range of filter bags and elements is extensive.
Over 1,500 choices in all.

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Industrial process products

Filter cartridges

Eaton's broad range of filter cartridges gives customers wide flexibility in choosing filtration solutions.

Available are nominal and absolute rated melt blown, string wound, resin bonded and activated carbon cartridges as well as filter elements.

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Industrial process products

Tubular backwashing filters

Matching media configuration, retention, and materials is easy with a tubular backwashing filter.

The product range offers media choices from compact configurations that pack a large amount of surface area into a small amount of space, to simple strainer-type systems for removing larger contaminants.

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Industrial process products

Manual strainers

Especially for industrial and commercial customers to protect their process piping equipment by removing debris from the liquid that flows through pipelines. Products include manual, duplex, simplex, and Y strainers.

For specialized applications, a pipeline strainer can be designed and manufactured.

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Industrial process products

Automatic self-cleaning filters

Solutions can be offered from internal or external backwashing systems for the filtration of water and aqueous media to mechanically cleaned filters systems for high viscous liquids.

The filters are always sized to the customer’s individual applications and needs.

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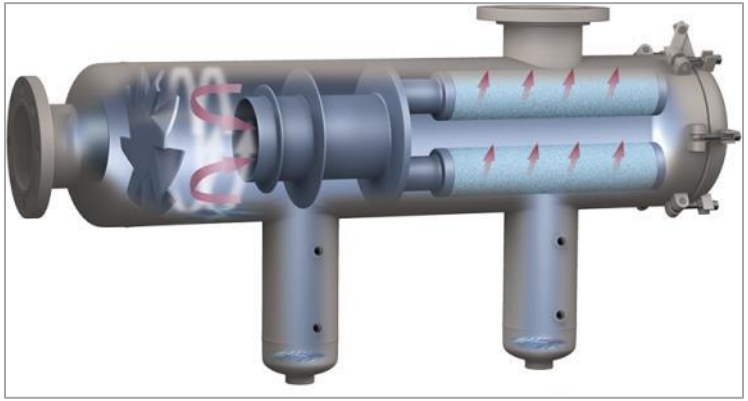
Industrial process products

Gas liquid separators

Gas liquid separators remove +99% of all damage causing moisture and solid particles 10 microns and larger.

Typically installed following an intercooler or aftercooler they will remove entrained solids. Steam separators are also installed in steam distribution lines to assure clean, dry steam.



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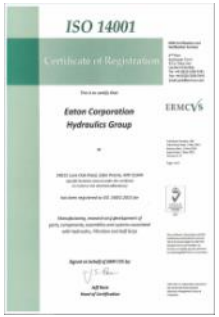
Industrial process products

Certificates

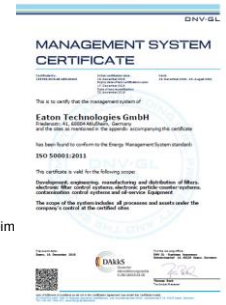
- DIN EN ISO 9001
- DIN EN ISO 14001
- Energy Management System Standard: ISO 50001

Sint-Niklaas

Nettersheim



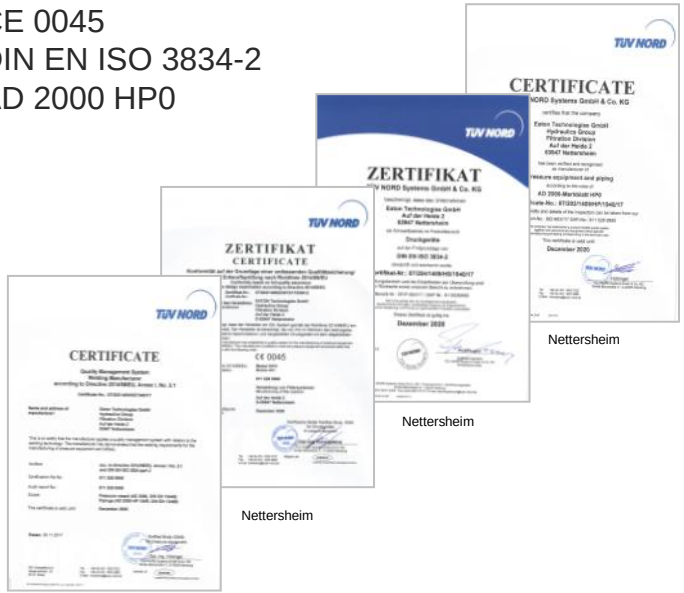
Group Certification



Nettersheim

Group Certification

- Manufacturing of pressure vessels:
  - PED 2014/68/EU
  - CE 0045
  - DIN EN ISO 3834-2
  - AD 2000 HP0



Nettersheim

Nettersheim

Nettersheim

Nettersheim

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Industrial process markets

Pharmaceutical
- Intake water
- Bulk product load-out

Paint
- Fill lines
- Additive polishing
- Raw latex

Chemical
- Solvent recovery
- Resin filtration
- Feed stock load-out
- Oil removal

Automotive coatings
- E-coat
- Machine tool coolant
- Parts washers
- Paint booth

Water
- Municipal water intake
- Waste water treatment
- Commercial water intake

Oil refinery
- Hydro-processing feed stock
- Amine loop conditioning
- Cooling water

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Life science products

Depth filter sheets

Stacked disc cartridges

Filter cartridges and housings

Filter bags and elements

Filtration systems

Measuring and testing devices

Filter capsules and laboratory filters

Beverage treatment products

Powering Business Worldwide

Life science products

Depth filter sheets

Conventional depth filter sheets with different clarifying sharpness and unfiltrate volume offer specifically tailored filtrate quality in all filtration ranges.

BECOPAD, a premium depth filtration product. The filter media made of pure cellulose covers all requirements from coarse to sterile filtration.

Life science products

Stacked disc cartridges

Precise sealing with polypropylene or polyamide edge molding of two depth filter sheets, whose outlet side is in contact with a drainage plate forms one filter cells.

Depending on the stacked disc cartridge type, a different number of filter cells forms a cartridge unit, which is safely held together by the three-part segmented sleeve made from stainless steel.

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Life science products

Filter cartridges

A wide range of filter cartridges offer complete filtration solutions for diverse applications from clarifying and fine filtration with depth filter cartridges to the reduction of microorganisms and microbiological stabilization with membrane filter cartridges.

Filter cartridges feature a variety of retention ratings, between 0.2 and 150 µm, suitable for an array of liquid filtration applications. In addition to sizes ranging from 10" (25 cm) to 40" (100 cm) and various adapter codes, filter cartridges are available with different filter material.

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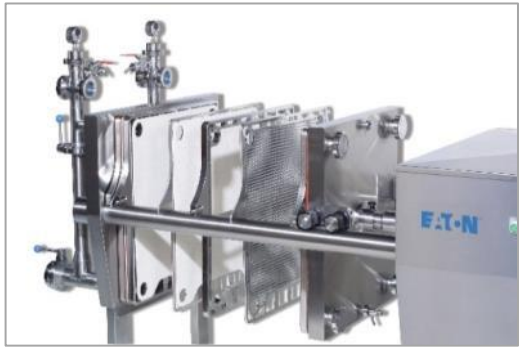
Life science products

Filtration systems

The implementation of process engineering concepts and client-specific filtration tasks for clarification, fine and sterile filtration applications.

The design of the filtration systems follows current domestic and international standards and special guidelines, e.g., cGMP or FDA.



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Life science products

Filter capsules and laboratory filters

Filter capsules are ready-to-use units for the filtration of media containing particles, or for removing biologicals in pharmaceutical and biotechnology applications.

They are used for scale-up trials, e.g., for selection of suitable filter media and determination of the required filter area, easy sample preparation, separation of cell debris, filtration of serum and cell culture media.

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Life science products

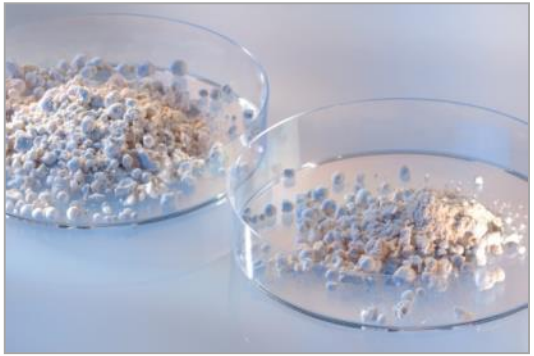
Beverage treatment

Dried pure yeasts, lactic acid bacteria (*Oenococcus oeni*), and enzymes (bio-catalysts).

Fining generally refers to products and process used to increase the shelf life of beverages.

Stabilization products for beverages.

GMO confirmed for **oenological products**.



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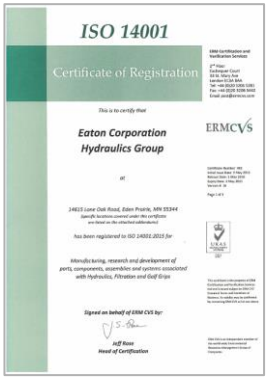
Life science products

Certificates

- DIN EN ISO 9001
- DIN EN ISO 14001
- Energy Management System Standard: ISO 50001

- HACCP
- Additional product compliance according FDA, USP, LFGB, cGMP
- Kosher Lemehadrin for Passover



Group Certification

Group Certification

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Life science markets

Food

- Gelatin
- Sugar
- Food ingredients

Beverages

- Wine
- Beer
- Fruit juice
- Spirits

Chemical

- Silicones
- Paints, lacquers
- Synthetic resins
- Pesticides

Pharmaceutical

- Dialysis concentrates
- Human serum albumin
- Plant extracts
- Fermenter broth
- Vitamin suspensions
- Enzyme solutions
- Cell culture media

Fine Chemical

- Flavors and fragrances
- Resins
- Terpenes
- Creams, shampoos
- Lotions
- Skin, bath and essential oils

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Hydraulic and lubrication oil products

Return line filters

Hydraulic and lubrication filter systems

Hydraulic and lubrication filter elements

Fluid purifiers

Condition monitoring

Hydraulic filter accessories

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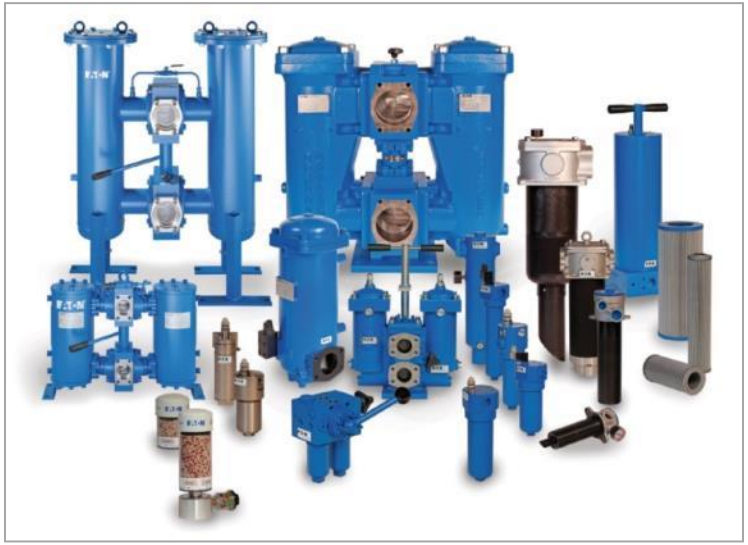
Hydraulic and lubrication oil products

Filters and systems

Eaton's full line of hydraulic and lubrication filters set standards in removing particulate and water contamination from hydraulic and lubrication fluids.

Eaton currently offers a selection of more than 4,000 different filter elements - from tank-mounted return line filters, to in-line or flange mounted high pressure filters, to manifold side mounted or manifold bottom mounted pressure filters, to air breathers and suction strainers.



Powering Business Worldwide

Hydraulic and lubrication oil products

Filter elements and EasyFit exchange filter elements

Our advantages:

- Superior dirt-holding capacity
- Highest Δp capability
- Best filtration efficiency

EasyFit exchange filter elements

Brands we interchange with:

- Hydac
- EPE
- Mahle
- Pall

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Hydraulic and lubrication oil products

Fluid purifiers

Eaton's mobile fluid purifier systems are highly versatile and designed to facilitate fluid purification where and when needed.

The IFPM fluid purifier systems are fully automated, PLC controlled units compact enough for use in confined areas.

Hydraulic and lubrication oil products

Condition monitoring systems

A condition monitoring system's performance is vital to protecting hydraulic components, such as pumps, bearings, and seals.

Eaton’s monitoring systems provide mobile and stationary fluid monitoring and particle counting as well as an immediate and precise diagnosis of a system’s condition. The systems easily connect to an external computer to control operations and manage them.

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Hydraulic and lubrication oil products

Hydraulic filter accessories

Eaton offers a complete line of hydraulic filter accessories for hydraulic and lubrication filters, systems, and condition monitoring equipment.

Eaton's portfolio includes clogging indicators, heating and cooling systems, breathers, adaptors, evacuation and bleeder connections, hose lines, and suction strainers.

Hydraulic and lubrication oil products

Certificates

- DIN EN ISO 9001
- DIN EN ISO 14001
- Energy Management System Standard: ISO 50001

- GOST
- TÜV
- RINA
- ASME Section VIII, Division I

Group Certification

Group Certification

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Hydraulic and lubrication filtration markets

Mobile hydraulics

- Agricultural
- Construction
- Mining equipment

Heavy industries

- Steelworks
- Metallurgical plants

Plastic machine/tools

- Plastic injection machines

Lubrication systems

- Machine building
- Plant engineering
- Oil circulation systems

Power generation

- Gas turbines
- Compressor industry

Hydro-electric power plants

- Turbines
- Compressors

Water hydraulics

- Hydraulic power packs

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Hydraulic and lubrication filtration markets

Wind power

- Wind turbines
- Gearbox manufacturers

Refrigeration machines

- Compressors for industrial refrigeration

Oil and gas

- Oil platforms
- Oil tankers
- Refineries

Molding and forging presses

- Metal working
- Machine building

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Oil and gas products

Tubular backwashing filters

ReactoGard

ClearAmine

Manual strainers

Automatic self-cleaning filters

Gas liquid separators

Oil and gas products

ReactoGard

ReactoGard systems are recognized leaders in the protection of fixed bed catalytic reactors and related refinery operations.

They consist of multiple banks of filter elements with valves at the inlet and outlet of each bank to produce cleaner, more efficient low flux operation.

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Oil and gas products

ClearAmine

Pipe scale, rust, iron sulfide, sand and other solids build-up in closed-loop amine systems fouling flash drums, heat exchangers, strippers, re-boilers, and carbon filters.

ClearAmine filtration systems remove harmful solids to protect and extend equipment life, and maximize amine systems' effectiveness.

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Oil and gas filtration markets

Power generation
- Make-up water
- Water treatment

Petrochemical
- Diesel
- Catalyst protection
- Rich/Lean side amines

Natural gas processing plants
- Gas/Liquid separation
- Gas well extraction

Oil refineries
- Enhanced oil recovery
- Chemical flooding

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Customer success stories in diverse markets


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